



Situated bio-regulation

Ethnographic sensibility at the interface of STS, policy studies and the social studies of medicine

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Situated Bio-Regulation – Ethnographic Sensibility at the interface of STS, policy studies, and the social studies of medicine

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Abstract:

Several years ago, both authors engaged in research into bioscience and biomedical regulation in Asian countries. One of us (BP) explored why the regulatory and discursive embedding of human embryonic stem cell in Israel was much more permissive than elsewhere. The other author (AW) sought to understand the conditions under which traditional herbal medicine came to be mobilised in Vietnam's national health delivery system to an extent that it is now considered one of the most integrated in the world. In both cases, we found that to understand science policies and regulatory frameworks we needed to go beyond official documents and expert interviews, and instead move the meanings of social conventions, political, legal, and social histories, as well as other informal practices, into the focus of our studies. Exploring these conditions of possibility for the regulatory configurations in our case studies meant bringing what we call 'ethnographic sensibility' to our research. This paper discusses the implications of this approach, which often entails rendering visible the contradictions and 'disorders' in what seems coherent and orderly.

Key words: policy research, ethnographic sensibility, expert/elite interviews, STS, stem cell research, herbal medicine, Asia

Short author biographies:

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1. Introduction: stem cells and herbal medicines

Barbara's voice

My encounter with Israeli stem cells had been, to a large extent, coincidental. One morning in 2001 I flipped through a range of newspapers in a coffee shop. A few weeks earlier Wolfgang Clement, then-Minister President of the German *Land* of North Rhine-Westphalia, had travelled to Israel to explore a potential collaboration between the University of Bonn and the University of Haifa in human embryonic stem cell (hESC) research. In those days, the derivation of hESC from embryos in Germany was forbidden by German Law. The import of already derived hESC lines to Germany, however, was unregulated. (The German Stem Cell Act, which allows the import of hESC lines to Germany under strictly regulated circumstances, was issued a year later; see Sperling 2008; Prainsack 2006.) Thus, Clement and his fellow travellers hoped that this legal lacuna would allow them to arrange for the import of hESC lines for research purposes from Israel to Germany.

Had Clement been able to foresee the political heat that his trip to Israel would create, he may have done things differently. Clement faced severe criticism not only from the conservative and Christian side of the political spectrum, but also from fellow members of his own political party, the Social Democrats (Schwabe, 2001). Progressives and conservatives alike, it seemed, joined ranks in condemning Clement's actions. Many Germans felt, as a commentator in the famous German weekly *Die Zeit* wrote, that it was an 'almost macabre irony of fate that Israeli scientists – Israel of all nations! – currently are putting German bioethicists under pressure. [...] Jewish reproductive medicine practitioners [...] evidently have no scruples to deliver these controversial embryonic

stem cells to the University of Bonn, thereby provoking a breach of a taboo...' (Schnabel, 2001; our translation. See also Prainsack, 2006: 174).

It was particularly the implicit assumption that Israeli hESC researchers and bioethicists were acting 'immorally' which spurred my curiosity. I had gotten to know some Israeli bioethicists previously, and the coverage in German media portrayed a very different picture of this debate from what I had experienced in my encounters with them. It was not so much that I felt that the arguments brought forward by Israeli bioethicists were more or less 'moral' than the arguments dominating the German debate: On the contrary, the puzzling thing was that so many of the core terms mobilised in the German bioethics debate – such as 'life', or 'human dignity' – were exactly the same as in the Israeli debate. How, then, could it be that the regulatory outcomes in both countries were so astonishingly different?

The decision to make this question the topic of my PhD thesis happened on that morning in June 2001 in the Viennese café. The latter is roughly 1,450 miles away from the Rambam Hospital in Haifa, where Joseph Itskovits-Eldor was running his lab. Itskovits-Eldor was one of the most prominent stem cell scientists in Israel, and one of the co-authors on the famous Thomson paper, announcing the first successful derivation of hESC from human blastocysts in 1998 (Thomson *et al*, 1998). I had never been to that lab, and neither had I met Itskovits-Eldor. So where to start?

Ayo's voice

In the summer of 1997, I travelled to Vietnam for the first time together with a group of journalists. The trip had been organised two months after the Vietnamese government and the United Nations had signed a three-year agreement for a project on the 'International Scientific Development of the Anti-Drug Medication Heantos¹'. The idea was to meet with the herbalists, scientists, doctors, UN officials and government representatives who had made the project possible. The inventor of the remedy, Tran Khuong Dan, had spent a decade of his life travelling throughout Vietnam to exchange

knowledge with other traditional practitioners before eventually intentionally addicting himself to opium in order to self-experiment with different herbal remedy combinations. It was during this trip that I first learned of Vietnam's unique history of traditional herbal medicine.

In much of the popular and sociological literature on and around 'complementary and alternative medicine' (CAM) or 'traditional medicine' (TM) in Europe, clear distinctions have been made between TM/CAM on the one hand and modern medicine, or biomedicine, on the other, along three particular axes. Firstly, the former are often characterised as holistic, gentle and natural while the latter reductionist, impersonal and 'toxic'. Secondly, biomedicine is politically dominant, hegemonic and orthodox while TM/CAM is marginalised, alternative and subjugated. And finally, biomedicine and TM/CAM are often described as separated by an incommensurable epistemological chasm which can only be bridged if the one (usually TM/CAM) is 'colonised' by the other. A version of this latter polemic pits a 'rational' biomedicine against an 'irrational' or 'superstitious' TM/CAM (see Wahlberg, 2006, 2008).

Yet, in Vietnam, such dichotomies have been directly challenged time and again by traditional practitioners, biomedical doctors and government officials alike. This, for example, is what Vietnam's first Minister of Health Pham Ngoc Thac replied when asked about the relevance of traditional medicine in 1965:

There are about 16,000 people practising traditional medicine. Shall we 'outlaw' them, or shall we pay the greatest respect to this ancient science of which they keep the secrets, and integrate them into our medical machinery? We have followed the second path. Together with physicians trained in modern methods those 'quacks' are now studying the scientific application of traditional medications to numerous diseases. While they become acquainted with the fundamental notions of modern medicine, our physicians learn the principles and important methods of treatment used in traditional medicine. (Pham, 1965: 12-13)

Over the last 50 years, health authorities in Vietnam have actively worked to combine traditional and modern medicine in the national health delivery system at national, provincial and district levels. Alongside China and South Korea, Vietnam is now considered to have one of the most integrated healthcare systems in the world with traditional and biomedical treatment offered to patients (WHO, 2002).

It was the insistence and indignation with which calls for combining traditional and modern medicines were made that became of particular interest to me. How might one account for this explicit emphasis on integration which was so much at odds with the situation in Europe and other parts of the world? It was this question that ultimately led me to embark on a comparative (Vietnam and the United Kingdom) PhD project carried out in the years 2003 to 2006 (Wahlberg, 2006, 2007, 2008).

2. Messiness and order – making new connections

In this paper we address methodological and conceptual dimensions of bringing what we call ‘ethnographic sensibility’ into the study of biomedical and bioscience regulation (which we will refer to here as bio-regulation). Bio-regulation can be understood as the different ways in which the procurement, handling, storage or use of biological objects (Vermeulen et al. 2012) is allowed, organised, controlled or prohibited through various forms of law, regulation, guidelines or practices. Drawing upon our two case studies – one on the ‘permissive’ regulation of hESC research in Israel, and one on the ‘integrative’ regulation of traditional herbal medicine in Vietnam – we examine by what means and methods we obtained the most valuable insights for our studies.

As pointed out above, in both cases, our research interests were guided by a puzzle about regulation. Yet in both cases, we felt that an analysis of available legal and policy documents, combined with interviews with a number of experts in the field, would not allow us to fully understand the particular ways in which practices in these fields have come to be organised in Israel and Vietnam. We felt that we needed to access tacit knowledge (Polanyi, 1966) and look at the meaning of practices and social and legal

forms as a way to situate bio-regulation (see also Haraway, 1998, Clarke, 2005). Taking our cue from Schatz (2009), we use the term ‘ethnographic sensibility’ to signify an approach that is different from a full-fledged ethnography but which is underpinned by a commitment to taking seriously the meaning of practices and forms beyond the immediate domain of policy making.

Let us briefly explain how our approach is different from ‘conventional’ policy analysis on the one hand, and from much of the previous policy-relevant work in the social studies of biomedicine and bioscience on the other. In ‘conventional’ policy analysis, which can be understood as research *for* policy making (i.e. to enhance policy making), methods are typically employed for a different purpose than is the case in ethnographic research. Rather than practices and contexts of meaning, policy analysts often focus on forms of regulation and governance in a particular field. They examine the documents, articulations and practices of highly professional experts who, when interviewed, are often guarded and weary of how what they say will be received in ‘the public’.

Also less ‘conventional’ policy analysis has so far not made extensive use of ethnographic methods. There is a growing critical/interpretive policy studies literature that has departed from the idea of carrying out research *for* policy making, that is, of providing insights to policy makers about how to make policies and policy-making more efficient. Instead, most critical policy studies scholars situate their work in a post-positive tradition; they explore discursive, symbolic, and practical meanings of policies and policy making processes (e.g. Schön and Rein, 1994; Yanow, 1996, 2000; Wagenaar, 2011). Although scholarship in this field uses various methods, such as expert interviews, and document and discourse analysis, ethnographic sensibility is not (yet) very pronounced.

The reasons for this are twofold: First, many of the scholars in this field were trained in disciplines such as political science or sociology. Even if they use ethnographic methods, they were not socialised in an environment that is highly reflective of these methods and the position of the researcher, such as anthropology.² Second, as Wagenaar (2011: 71) states, the most frequently employed approaches in interpretive policy analysis aim ‘to

clarify what is muddled or obscure by looking for a particular meaning that is somehow “behind” the policy and that is, initially, at least, hidden’.

The assumption that there is one coherent order, or a ‘hidden plot’, behind a process of policy making that policy analysts should try to expose is diametrically opposed to what we set out to do: Bringing ethnographic sensibility to the study of regulation and policy-making entails moving beyond polished and tailored narratives found in policy documents and policy makers accounts, and turning our attention to the practices and narratives ‘on the ground’. It means to show the messiness in the seeming order. For such an endeavour to succeed, we need to start at an analytic place where ideological commitments about how policy making *should* take place have not yet been imposed on how policy outcomes are explained and presented. Moreover, we need to take on board extended versions in particular of three of four principles that Wagenaar identified as prerequisites of ‘dialogical meaning’ (Wagenaar, 2011: 195): First, that understanding is grounded in everyday experiences, and not only in practices that are directly linked to policy making; second, that understanding proceeds through the interaction between human actors, and between human actors and the non-human world, and that such interaction leaves no actors unchanged; and third, that inevitably, ‘understanding is always imperfect, partial and incomplete’ (Wagenaar, 2011: 195).

Outside the immediate domain of policy scholarship, there is an important body of literature addressing various dimensions of policy-making in a richly qualitative and analytic manner. Two of the most influential scholars addressing aspects of bio-regulation are Sheila Jasanoff and Sarah Franklin. Sheila Jasanoff’s work has shown how comparative research on forms of citizen participation, collective ways of knowing, and types of political culture enables us to understand the political pathways followed by different countries in coming to terms with new developments in the life sciences. Jasanoff argues for ‘a combination of historical reflection, close textual reading, personal interviews, observation of key institutions, and qualitative analysis of legal and political developments’ (Jasanoff, 2005: 10; see also Gottweis, 1998). Sarah Franklin, in her studies of reproductive technologies, used a ‘bottom-up’ ethnographic perspective to

examine how ‘the “lifeworlds” brought into being among user-groups of reproductive services are constituted across a range of locations’ (Franklin, 1997: 15). She argues that ‘it is important to document and analyze the many languages in which genetic choices and decisions are currently being negotiated... includ[ing] those of clinicians, scientists, patients, policy makers, parliamentarians, journalists, academics, activists, and lobbyists’ (Franklin and Roberts, 2006: 77). For Franklin, to understand how the lifeworlds of assisted conception and preimplantation genetic diagnosis (PGD) patients are constituted and how choices about PGD are made by couples, ethnographers must develop broad-ranging research strategies which take them, for example, ‘from the enterprise culture of Thatcherism, to the media representation of “desperate” infertile couples, to parliamentary debate of human fertilisation and embryology, to the IVF clinic and into the private sitting rooms of a group of IVF clients’ (Franklin, 1997: 15).

Both Jasanoff’s and Franklin’s work combine a broad and creative array of methods to understand how policies are thought and acted into being, and how they affect people ‘on the ground’. Our own case studies owe much to these approaches. The settings and aims of our own projects, however, were different from Jasanoff’s and Franklin’s: In contrast to Jasanoff’s research, our aim was not primarily to distinguish different styles, processes or cultures of policy articulation, policymaking or policy implementation. And unlike Franklin’s, our research did not focus on the lifeworlds or choices of ‘users’ (patients or donors). Instead, we focused on elite groups³ – policy makers, but also scientists, bioethicists, and members of patient organizations or interest groups – to study the social, political, economic and cultural contexts in which particular forms of bio-regulation emerged. We explored how a certain regulatory configuration was tied to what was thinkable and sayable in one particular context: This is what we mean by situated bio-regulation.

Inspired by Jasanoff’s, Franklin’s, and other examples of how to meaningfully and fruitfully broaden methodological scopes, we embraced broad-ranging research strategies in our efforts to understand regulatory configurations, and how they were linked to collective practices transcending the area of policy making, such as nation building.⁴

Spending time in our respective countries of study, interviewing experts, being in laboratories, gathering and analysing policy papers, discussions from e-mail lists, and other relevant documents, speaking to lay persons, ‘hanging out’, and reading newspapers was what brought insight to our research questions. To understand regulatory configurations, we needed to explore how stem cell research and traditional herbal medicine as objects of regulation were embedded in broader national and economic discourses and practices (see also Marcus and Fischer, 1986). As such we focused on certain conditions of possibility rather than on processes of change. In both of our cases, taking part – to various extents – in the communities we were studying allowed us to make new connections by giving us access to the tacit knowledges, and to the meanings of practices and forms.

Focusing on individual and collective practices of policy makers, stakeholders, and others enabled us to see ‘messiness’ where policy documents and the official policy narratives convey order. This does not imply, however, that portraying policymaking as a ‘messy affair’ was the aim of our projects. What our focus on practices and other sources of meaning that are not necessarily condensed in policy documents enabled us to do is to see both the logical and orderly, and the disorderly and emerging aspects of a policy.

At the same time, however, this process poses several challenges: First, is ‘bringing in ethnographic sensibility’ just a nice phrase to mask slapdash ethnography, or does it contribute something novel to the study of regulatory configurations? Is it an easy way out of a demand that policy analysts face, namely the need to generate findings that can be applied ‘in the real world’? Second, in what ways are we positioned, or do we position ourselves, as social scientists in the fields that we are studying? To what extent are we part of the stories that we tell about others? And how do we use our positions to make new connections? Third, how do we know when our research findings are meaningful and ‘valid’, and when they are not? It is all very well to make new connections, but how do these connections ‘go down’ with those who work in the fields under study and our academic peers?

3. Stories in the making: The benefits of bringing ethnographic sensibility to the study of bio-regulation

Barbara's voice

Between December 2001 and August 2003, I took four trips lasting between one week and one and a half months to carry out more interviews, gather relevant documents and meet with people informally. I was not entirely a newcomer to the country, and particularly not to the Ashkenazi-dominated intellectual culture of the coastal areas, which is where a large part of the institutionalised knowledge (scientific, ethical, and political) of the country is being produced. I began by contacting those I considered key players in the field; meetings were arranged with as many of them as possible. From there I 'snowballed' on to further contacts. Fortunately, not only did some of my informants initiate second and third meetings, but they also invited me to birthday parties, bar mitzvahs, talks, trips, and to meals in their homes. Through many informal conversations, interactions, and observations, and also by means of simply being in the country, I learned more about the discursive conditions of possibility of the particular Israel approach towards hESC research than in my interviews.

It was on more than one occasion that those interactions made me dismiss the explanations that I had found, and start from scratch again, sometimes asking entirely new questions. In other words, had I answered my research question primarily on the basis of the analysis of policy documents and one or two rounds of expert interviews, the story that I would have told would have been much narrower than the one which I ended up telling. In the first instance, virtually all of my informants had referred to religion as the main factor that accounted for Israel's uniquely permissive approach towards hESC research.

The religious characteristics of Judaism which render some of the aspects of embryo research unproblematic that are highly contested in Christian contexts are, in a nutshell, the following (see also Prainsack, 2004, 2006): First, Jewish Law does not disapprove of

particular techniques, but it tends to regard technology as morally neutral. It is the intention of the people using them, and the purpose for which they are used, which their status in Jewish Law depends on. Second, Judaism has traditionally been open to progress (technological and otherwise). For many, the notion of *tikkun olam*, ‘repairing the world’, not only condones but actively entails the reliance on technological progress to treat and cure diseases, to control natural forces, and to make our daily lives more safe and convenient. Third – and much in the same spirit –, ‘playing God’ is not seen as sinful as such. Humans are God’s partner in creation, and if they fulfil this role responsibly, it can be a virtue. Fourth, physical healing has always been valued very highly in Jewish traditions: it is another variant of the recurring theme of humans being God’s partners in creation. Fifth, *ex utero* embryos have no independent human dignity in Jewish Law.

These religious values were also reflected in the policy recommendations on hESC research of the Bioethics Advisory Committee of the Israeli Academy of Sciences and Humanities (IASH) in 2001, a document which influenced the little debate there was on what kinds of embryos to use for hESC. If my analysis had stopped there, it would indeed have been plausible to argue that the difference in the religious heritages of Israel vs. large parts of Europe and North America – Judaism vs. Christianity – accounts for the fact that crucial aspects related to embryo research were not seen as problematic in Israel, which is still a predominantly Jewish country. Although about a quarter of all Israeli citizens are not Jewish (this does not include the Arab, Druze and Christian population in the so-called Palestinian territories, as they do not hold Israeli passports), and less than half of all Israeli Jews consider themselves religious, shared values, or ‘meta-narratives’ (Gottweis, 1998; Patterson and Monroe, 1998) are always saturated with religious and historical meaning (see also Cronon, 1992). These shared values and meta-narratives are being transformed into practice by individuals translating the truths of authorities into their own preferences and commitments (Rose, 1996: 165; Prainsack, 2006). Thus, even those who do not explicitly accept a particular history or religious ‘truth’ as their own are often influenced by them, as it is these ‘truths’ that shape what is thinkable and sayable in a given context.⁵

But somehow I did not feel fully content with this explanation. While the religious argument was neatly linear and clear, even plausible, I felt that there were aspects other than religious values that shaped what is thinkable and sayable in the field of regulating hESC. When I started to look for answers to my question in broader contexts than merely discussions about stem cell research, I began to explore the implications of linking life science regulation with the symbolic and practical value of procreation. Policy documents in Israel highlighted that embryonic stem cell research was merely a sub-set of research on human tissues, and that *ex utero* embryos were not bearers of human dignity. Unlike in predominantly Christian countries, there was no ethical debate that linked stem cell research to procreation. At the same time, however, the bioethicists, lawyers, scientists and other people that I talked to in Israel invariably noted the overarching value of procreation at some point of our conversation. What was the connection between the hESC research and procreation, besides the fact that embryos used for research were typically left over from IVF treatments?

Simply asking one's informants why something is important to them does not typically yield meaningful answers. Regardless of how nuanced and 'truthful' (i.e. free from any deliberate attempt to hide or deceive) the respondents' answers, certain dimensions of policy making are only accessible by exploring the points of reference *outside of the domain of policy making* that give meaning to practices. By following news coverage and having conversations on topics unrelated to the subject of my research, I found some meaningful answers to my research question. It was in such encounters that I learned that the societal importance of fostering procreation did not stem only from the religious commandment to 'be fruitful and multiply' (Genesis 1: 28). As a friend put it, 'being single in Israel is difficult - but not having children in this country is almost like being a freak'. This notion was echoed by others, and often linked to the notion of doing one's duty for a country that is permanently in a state of emergency. Procreation also had to do with the feeling of being part of a 'collective body' in danger. Regardless of whether people were 'hawks' or 'doves' with regard to their opinion on the 'Arab' or 'Palestinian' question (the more 'hawkish' a person, the smaller the chance that she would use the word 'Palestinian', of course), most expressed the feeling of danger in one way or

another. Many ‘hawks’ felt that more Jewish babies were needed because the Palestinians, as Arafat had once stated, were using the Arab women’s uterus as their ‘strongest weapon’.⁶ Some ‘doves’ felt that given that Israel is both a Jewish state and a democracy (State of Israel, 1948), it was important to maintain a Jewish majority in order not to lose the legitimacy to retain Jewish values and ‘be safe’ in the Middle East.

These insights gave the objective to be ‘fruitful and multiply’ a much ‘thicker’ (in the sense of Geertz, 1973) meaning. This ‘thick’ meaning articulates itself in the political and religious realms at the same time, leading to a situation where everything that is capable of actually or potentially improving the quality or quantity of life must be supported. As I have argued elsewhere (Prainsack, 2006), the Israeli discourse on hESC research does not provide room for positions which detract from this overarching principle.

The great importance of reproduction in both the political and in the religious realms also imbues embryos with a particular meaning: Jewish Israeli embryos obtain meaning from being part of the family that the potentially resulting children may be born into, and also from being an imagined part of a collective body which is in need of protection and improvement (see also Hashiloni-Dolev, 2007). In this context, embryos used for reproduction and for research both serve the (quantitative or qualitative) betterment of the population. This is why portrayals of hESC research as morally or ethically contestable were inconceivable in Israel. And because they were inconceivable, it did not occur to anybody to refute such portrayals – or to justify the Israeli position – in policy documents and legal provisions. It was a non-issue. Legal provisions are always answers to particular questions; and one does not ask questions about what is intuitively evident or otherwise obvious.

Ayo’s voice

From the summer of 1997 until the fall of 2004, I returned to Hanoi for extended stays (1-5 months) on three occasions, twice to work as an intern at the Institute of Chemistry in Hanoi (1998 and 1999) where herbalists and scientists have been working to further

develop the herbal remedy Heantos for over a decade now, and most recently in the fall of 2004 to do follow-up fieldwork for my PhD. During these stays I had the opportunity to travel throughout the north of Vietnam, meeting and learning informally from traditional practitioners, users of herbal medicine, doctors, government officials, UN agency representatives and local members of the Communist party in the many towns I was able to visit. I had the chance to visit remote villages where opium cultivation and use have been practiced for centuries, to travel along the treacherously winding roads favoured by traffickers of opium resin, to talk with the addicts whose demographics neatly match the traffickers' routes, and to witness the treatment of addicts with Heantos and other forms of treatment in rehabilitation centres usually located on the fringes of towns and cities. In Hanoi, I spent many hours in the laboratories of the Institute of Chemistry, also visiting institutes of Drug Quality Control, Materia Medica and Traditional Medicine.

It would be easy to approach the question of integration of traditional medicine in Vietnam as a matter of resource allocation, capacity building, evidence-based validation of efficacy claims, professionalization of practice, modernisation of production, research into plant chemistry, etc. Indeed, these are the issues covered in numerous guidelines, programmes and policies to promote traditional medicine use in Vietnam which the government and Ministry of Health have prepared. These themes also came up in most of my discussions with those scientists, doctors, government officials and traditional practitioners who have been engaged in the integration effort. The story I heard was very often one of pragmatics: in a country with relatively few resources for healthcare, traditional medicine is a cost-effective and familiar form of healthcare provision for the population. Integration is a matter of national health policy aimed at improving the health of the people.

Yet, clearly Vietnam is not the only country facing scarce healthcare resources and massive health challenges. So, getting to grips with how Vietnam came to have one of the most integrated⁷ systems of national health delivery in the world, would require more than delving into the successive policies, guidelines and strategies aiming to 'combine

traditional and modern medicine’ which have been formulated and implemented by the Vietnamese government over the last 50 years (see Wahlberg, 2006; Hoang *et al*, 1999).

During my many stays in Vietnam, I often noted that discussion of traditional medicine was never far removed from historical narratives of perseverance, self-sufficiency and national pride, especially in a 20th century context of armed struggle,⁸ yet another instance where the regulation of bioscience and biomedicine was inseparably linked to nation building. In particular, a 1955 appeal by late president Ho Chi Minh for health workers to study means of combining the effects of Eastern and Western medicine was consistently invoked by government officials, traditional practitioners and even friends who asked me what kind of work I was doing in Vietnam. From the various people – doctors, scientists, traditional practitioners and many others – I got to spend time with in Hanoi while at the Institute of Chemistry and during trips to different parts of northern Vietnam, I heard stories of how soldiers had to rely on traditional medicine while fighting in the jungles cut off from access to modern medical supplies. Indeed, the People’s Army of Vietnam remained very active in efforts to modernise and promote research into and the use of traditional medicines through its network of hospitals and through its publishing house (see Thompson, 2004). The first trial of the anti-drug herbal medicine Heantos (the specific case study that I followed) was carried out on a group of 110 morphine-addicted war invalids in 1995 at the Hoàng Long Rehabilitation Centre.

I also listened to botanists and plant chemists as they eagerly recounted their ethno-botanical field trips to collect medicinal plants which involved seeking out village practitioners to interview them about local remedies. The way these trips were described suggested that they were as much about documenting a cultural heritage that was at risk of being lost forever as they were scientific expeditions. The terminology used for traditional medicine was telling in itself as in Vietnam distinctions are made between ‘our medicine’ (*thuốc ta*) as opposed to ‘Western medicine’ (*thuốc Tây*) and ‘southern medicine’ (*thuốc nam*) as opposed to ‘northern medicine’ (*thuốc Bắc* – i.e. Chinese medicine as China lies to the North of Vietnam) (see Monnais *et al*, 2012). And one of

the founding fathers of Vietnamese medicine, Tue Tinh, had famously argued for the use of ‘southern medicines for southern people’ in the 14th century.

In chemistry laboratories, I was able to watch and listen as a traditional practitioner collaborated with chemists to standardise and modernise a traditional herbal remedy based on thirteen different plants. To modernise traditional medicine did not appear oxymoronic, but instead novel strategies for the isolation, structural elucidation and synthesising of compounds found in the different medicinal plants were formed (Wahlberg, 2008).

It was during this time spent in Vietnam in chemistry laboratories and clinics, travels around the country and living there, that it became clear to me that Ho Chi Minh’s call to ‘build our own medicine’ was as much a matter of national independence and nation-building as it was of the nation’s health. Traditional medicine was intimately linked to national identity as well as Vietnam’s postcolonial historical narrative. For these reasons, combining traditional medicine with modern medicine in Vietnam has not been marked by the aggressive chasms and hostilities that are otherwise common in many other countries (Saks, 1995; Coward, 1989; Ruggie, 2004), and indeed both forms have been actively integrated into national health delivery systems.⁹ To reject traditional medicine was not an option.

3. Enacting ethnographic sensibility

What, then, did bringing ethnographic sensibility to our case studies allow us to do? Over the last century or so, anthropologists have developed and refined ethnographic methodologies to ‘grasp the native’s point of view, his relation to life, to realize his vision of his world’ (Malinowski, 1922: 25); to describe their forms of ‘reasoning’ (Rivers, 1924: 53); the ‘texture of his thought’; and their ‘web of belief [in which] all their beliefs hang together’ (Evans-Pritchard, 1937: 185, 194). These so-called ‘immersion’ methodologies entailed spending long periods of time among a certain community or group of people to observe them and get to know them from the inside,

often relying on specific informants. As Marilyn Strathern put it, ‘the fieldworker came to know “more” than his or her informants, so-called, and that generalized information about what was common to many informants could be aggregated as the culture of these people’ (Strathern, 2004: 9). While such rather static views of culture have long since been challenged and revised (e.g. see Marcus, 1998), fieldwork remains central to generating ethnographic insight today. Ethnographic knowledge requires ‘actual presence in the social world’ (Hastrup, 2004: 465) through spending time, living, experiencing, participating, forming relationships, etc. in a certain community or setting.

Ethnographic methodologies have, in recent years, become widespread also in the context of science studies and in the social studies of medicine. Through laboratory or clinic ethnographies, researchers have immersed themselves into scientific and therapeutic settings to study how scientists, clinicians, nurses, hospital workers and patients live and work together and also to witness how scientific knowledge and facts are achieved (Latour, 1973; Knorr-Cetina, 1981; Rabinow, 1999; Landecker, 2000; Thompson, 2005; Franklin and Roberts, 2006). They have shown how patterns of coordination and choreography between actors or actants can emerge as well as how knowledge production in these settings requires negotiation and interpretation between engaged individuals. In the last two to three decades, ethnographic methodologies have increasingly also helped to illuminate processes of science policy making (Cambrosio *et al*, 1990), and policymaking in general (Shore and Wright, 1997; Hajer and Wagenaar, 2003; Bevir and Rhodes, 2006; Glynos and Howarth, 2008; Wagenaar, 2011).

As David Hess (1997: 134) pointed out for the field of science and technology studies (STS), ethnographic can have a ‘looser meaning’ in other disciplines than it does in anthropology, where ethnography is typically congruent with fieldwork. Researchers in STS or in the social studies of biomedicine, in contrast, often use a combination of different methods and approaches (see also Vaughan, 2000; Knorr-Cetina and Merz, 1997; Fischer 2009). In our cases, we did not carry out ethnographies of a certain group, or people (e.g. scientists, patients or policymakers), in the sense that our main aim was to understand the practices of that group. Instead, as noted earlier, our objective was to

generate insight into our particular puzzles, namely what were the conditions of possibility for the ‘permissive’ and ‘integrative’ regulatory set ups we had found in Israel and Vietnam. To do so we mobilised ethnographic sensibility, as a way to see how such regulatory set ups fit into the governmentality of the field of hESC research in Israel, and the integration of traditional medicine in Vietnam.

Brian Fay (2006) posed the question ‘Do you have to be one to know one?’ to explore what kind of access to the entity she studies the person who studies it requires in the qualitative social sciences. Do we need physical, personal experience with what we study, or is it sufficient to understand *what it is like* to experience it? For the ethnographically sensible study of bio-regulation, we argue that the answer to the question is that in principle, anybody can obtain useful insights into a culture or discipline which is not her own, especially if she follows certain rules (e.g. Baxter and Eyles, 1997). It is in relation to the systematic application of methods, rather than some kind of ‘nativeness’ that social scientific findings stand or fall. There has to be a robust congruence or ‘fit’ between methodologies/empirical bases and arguments/claims made.

In carrying out our research, we were both in many ways outsiders – foreigners in the countries we were researching in, newcomers to the fields of study we were focusing on (stem cell research and herbal medicine). This posed a number of practical challenges which had to be negotiated along the way.

The first and foremost obstacle was language. As neither of us had mastered national languages sufficiently for active use in interviews, it was important for us that English (which neither one of us is a native speaker) was a regular part of the groups of people we interacted with (scientists, bioethicists, government officials, etc.). Where this was not possible, translators were used to help clarify points. (In Barbara’s case, relevant documents were often available in Hebrew and English; when they were available in Hebrew only, they were analysed in Hebrew with the help of native speakers.) The fact that we were outsiders in the country and field of our respective studies means that we brought a comparative element to our work: Although neither of our projects included an

explicit comparative component, we inevitably measured what we found in the field against the standards of the cultures that we ourselves were part of. We also sometimes differentiated between what is interesting and in need of explanation, and what is not, according to what we knew from 'home'. 'Home' here refers to our native language, country, and also to the disciplinary traditions we were part of.

Any social scientist who has worked with natural or life scientists knows that 'culture shock' can be a relevant descriptor for the meeting of what some have called 'epistemic communities'. Different epistemic communities have markedly different ways of asking questions as well as of going about exploring possible answers to them. Barbara remembers one occasion where an informant refused to meet with her before having received a reference from another colleague on her behalf, and another person tested her scientific knowledge of stem cells before she was allowed to ask her questions. In her case, however, her outsider status – she was neither an Israeli, nor member of the Israeli scientific or bioethical communities – also allowed her to ask questions which many insiders would not dare to ask, and it probably also accounted for a greater ease with which some of her informants shared their opinions with her. Had she been a routine part of their professional lives, it is likely that many of them would have been more guarded. Similarly in the case of researching traditional medicine in Vietnam, being an outsider/Westerners gave access to laboratory sites as well as interviews. The relationship also served to crystallize questions around national identity and contributed to the framing of traditional herbal medicine as a nationalist project, something to be proud and respectful of.

The benefits of being an 'outsider' should however not cloud its inherent difficulties. A 'total outsider', that is, for example, a person who had never been in Israel or Vietnam before, who did not know much about the countries' institutions, or who was not familiar with the concepts and practices of hESC research or traditional medicine research, would probably not have been trusted enough to be given any substantial information beyond what is written in policy documents and reports. Moreover, she would also be more easily deceived, or important information could be left out of the accounts presented to her

without her noticing. Because total outsiders are also unfamiliar with the habits, tacit rules, jargon, and customs within the community or field they study, they would in some contexts be unable to ‘see’ what is going on (until they have learned these rules, jargons, customs, etc., this is, until they have ceased to be total outsiders).

Yet the process of familiarising ourselves with the tacit rules the language of a community or field is also a double-edged sword: When losing access to one’s site or community of research would have significant consequences for the researcher (for example, because the site or community is irreplaceable for the researcher), then we are likely to obey these tacit rules and norms in order not to jeopardize access. Short-term fieldwork, as it is often carried out by researchers studying bio-regulation, poses particular challenges in this respect as such researchers typically have not had the opportunity to develop deep social relations with their informants that can survive a crisis. Moreover, such researchers regularly do their fieldwork amidst elite groups – policy makers, administrators, or scientists – who are suspicious of outsiders who might, as mentioned above, expose the disorderly and the discontinuous in what is intentionally portrayed as linear and orderly (and for whom a lot rides on being perceived as formulating rational and coherent policies).¹⁰

Regularly those of us who seek to work with such elite groups do not get access at all. While this fact alone could be seen as an interesting datum in its own right, it is often invisible in accounts of studies of policymaking and regulation. If researchers are denied access, they often change their plans and obtain access elsewhere, thereby readjusting the focus of their studies rather than problematizing the lack of access in their published work. But even for those who do get access to their first site(s) of choice, the process of negotiating this access often entails very sensitive agreements on what both sides hope to gain from their collaboration, and on what either partner must refrain from doing (Prainsack *et al*, 2009). As researcher normally depend on the goodwill of the gatekeepers to their fieldwork, many need to tread carefully not to lose access. Treading carefully can also entail restrictions on what she can, or feels comfortable, disclosing.

Furthermore, if the researcher gets access to her first choice of site for fieldwork, then she often finds herself in an eclectic circle of experts where the use of sensitive information – regardless of whether or not the researcher is contractually or legally entitled to use it – can feel like a betrayal. The dilemmas of carrying out fieldwork within elite groups of experts can indeed resemble the dilemmas faced by those carrying out ‘covert’ research (Calvey, 2008).

4. Quality and validation: On feedback and cycles

There is always a certain amount of trepidation before clicking the send button on an e-mail to informants which contains a draft of a social science paper. This will typically be one of the first instances in which our informants are given a window into our social scientific worlds rather than vice versa. In some cases, responses are short, especially if our informants are too consumed with their own work to have time to read our work. Yet this is not always the case. We are certainly not the first researchers who have encountered the following reaction from informants after they had found a section in our publication which could be seen as not entirely flattering to them: ‘So, *this* is what you think about us!’ or ‘But you have missed the most important point!’ (see also the preface to Scheper-Hughes, 1982). On one occasion a former informant stayed up part of the night to compose an angry e-mail after having read a draft of an article which one of us had written. The informant could not understand that, given that the author of the draft knew ‘them’ so well, how could the draft contain all those supposedly negative things about the informant’s group?

Thankfully, in this case the author could solve the situation by explaining that it had not been the aim to judge but rather to understand, and furthermore, did the informant disagree that the story told made sense? The informant did not disagree, but he still thought that this was not a sufficient reason to *publish* the account. The disagreement eventually found a mutually agreeable resolution: it was decided that the researcher would add a sentence in the manuscript to note the reservations of that particular informant). The informant had a point, of course: once we know our informants very

well, where do we draw the line between what they tell us ‘in confidence’ – that is, simply assuming that we will not share the story with ‘outsiders’, even if they had given their consent that we could – and what they tell us as part of the ‘data gathering’ process? Again, the key thing is to be aware of these tensions in the relation between researchers and informants, especially in situations where we get to know informants very well.

Part of the explanation for those misunderstandings which inevitably arise lies in the fact that the ways in which we are trained to ask and answer questions can differ markedly between different institutions, countries, and academic disciplines. For example, when researching herbal medicine in a scientific context, there can be a tacit assumption that the research will answer very particular questions about safety, efficacy or quality. Social scientists may well make a point of becoming inter-literate in the kinds of science under study (stem cell research and herbal medicine research in our cases), but this does not mean that one’s informants will have the interest or time to reciprocate. It can be difficult to explain, for example, what ethnographic sensibility is, just as it can be challenging to explain the significance of studying the conditions under which certain national bio-regulation configurations can emerge. When spending time at the Institute of Chemistry in Hanoi or in drug treatment centres where clinical trials of a herbal remedy were carried out, chemists and clinicians were investigating whether or not the herbal remedy works in the treatment of drug addiction as well as how, i.e. through which pharmacokinetic/pharmacodynamic modes of action. Ayo’s interest in these same activities on the other hand related to how they contributed to an overall national project to modernise and industrialise herbal medicine. Yet it was very difficult to become detached from the question of whether or not the herbal medicine ‘works’. Indeed, this was usually the first question asked by anyone who heard Ayo talk about his research on herbal medicine – ‘yes, but does it work?’! And he was more often than not expected to have a firm position on this question.

An important way to increase the validity – or, speaking with Mishler (1990), improving the *validation* process – of qualitative data and their interpretation is to introduce feedback cycles in the later stages of our work. This means that instead of simply

returning from our fieldwork and presenting our findings to an audience ‘at home’, we should return to the field and expose our representations and interpretations to the scrutiny of our (actual and potential) informants.¹¹ A good (‘valid’ [Ljungberg, 2008; Angen, 2000], or ‘credible’ [Agar, 1986]; see also Merriam, 1995) interpretation is one which *makes sense*; that is, it is recognized by actors in the actual field. (We use sense-making also to emphasise the procedural aspect of reality, truth, and knowledge; see also James, 1977 [1909].) A notorious problem with this, however, is that it is difficult for a researcher to interpret the reaction of people to our descriptions and analyses of them, not only because they are of course very diverse, but also because people cannot be expected to recognise, or have critical distance, to the deep structures they themselves are part of (see Glynos and Howarth, 2008; Fay, 2006). How can we assess whether, and to what extents, our stories make sense to our informants? Recognition and approval on the side of our informants can take various forms: it can articulate itself both in the form of agreement, or strong disagreement (such as when somebody hears something that they recognize as one of their ‘truths’ but they do not want to hear it; see also Turner and Coen, 2008). The only marker for accounts that do not make sense, and that are not recognized, is probably unanimous indifference.

Despite this process often being angst-inducing before we start it, and frustrating or painful while we do it, it represents a valuable stage to make sure that our accounts have not assumed a life of their own and lost their touch with the accounts of those in the field. In Barbara’s case, after writing up her PhD thesis, she went back to Israel a few times (over the course of two years) to present and discuss her findings. She encountered both enthusiastic agreement (‘finally somebody’s getting to the bottom of what’s going on here!’) as well as passionate rejection (‘this is nonsense – what does stem cell research have to do with demography?’). She also learned that there was one storyline which in her thesis she had neglected, or at least undervalued: this was the importance of the Zionist heritage of the country. Zionism, with its inherent embrace of science and technology which would turn the deserts into fertile soils and thereby enable the Jewish homeland in the Middle East, provides an important condition of possibility for regulatory and discursive frameworks in support of hESC research (and for a range of

other technologies which are contested in other parts of the world. See Prainsack, 2006; Prainsack and Firestone, 2005). In this way, Zionism is an important ‘multiplier’ of pro-science attitudes into more secular sectors of society: While, as one of the researcher’s informants stated, in the religious sector of society, one can assume, as a rule of thumb, that the more religious a person, the more pro-technology she tends to be, this does not apply to the moderately religious to secular spectrum. However, for people raised in the secular-Zionist tradition, Zionism served as a mediator of their love for science and technology.

The relevance of this narrative became clear when many of those with whom Barbara discussed her findings referred to Zionism in their responses, or when they told her of the place that science had had in their own upbringing. (Barbara is not entirely sure why she initially failed to see the importance of the Zionist narrative; perhaps because she took it for granted when she entered the field, she failed to ‘see’ its relevance.)

In Ayo’s case, his cooperation with scientists at the Institute of Chemistry and other actors in the field of traditional herbal medicine in Vietnam continues. Chapter and article drafts have been shared for comments and a collaborative book project on the history of traditional medicine in Vietnam has been completed (Monnais *et al*, 2012). In many ways he began cooperation as an ‘insider’ working as an intern at the Institute of Chemistry and so the transition into an ‘outsider’ was perhaps never complete. What is more, the findings that have emerged from his research have not been jarring to the extent that showing how it has in many ways been inconceivable to be ‘against’ promoting traditional herbal medicine in Vietnam fits well with the work being carried out at the Institute of Chemistry. Where there have been differences these have pertained to a marked absence of assurance in his writings when it comes to questions about the safety, quality and efficacy of traditional herbal medicine. He has maintained that answers to these forms of questions are well beyond his competences and abilities.

Besides increasing the validity, and thereby the robustness of our interpretations, ‘feedback cycles’ can also signify something different in the research process. They

highlight the effect that social science accounts of the regulation of hESC research, and other ‘hot topics’, in countries outside of Europe and North America can have. Differently put, our accounts *do* something with the culture they depict, represent, and interpret: they represent and intervene (Hacking, 1983). Especially for those of us who carry out field work in one setting over a prolonged period of time, as well as for those who keep coming back to the same place in regular intervals, it is important to reflect on the extent to which we have shaped the very processes, infrastructures, discourses, demands, and sometimes even aspects of the economic configurations that we discuss in our work. Depending on the size of the economy, the scope of the scientific and policy community, and other factors, some of us will conclude that their influence is negligible. Others, however – especially those who ‘pioneered’ social science work on a new biomedical or bioscientific topic in a given country – are likely to find that their work has had more of an impact than they may have expected initially.

What do these impacts include? In Barbara’s case, her work helped policy-makers in Israel to understand why the Israeli approach to regulating stem cell research and human cloning was seen as problematic in other countries. This eventually led to the perception of a ‘need to be much more careful about how we say things in public’ (policy maker, personal communication with the author, 2005). In the context of drafts for new bio-regulation in the following years, pronounced efforts were made to first see how other countries (most prominently the US and the UK) dealt with this particular matter, before any documents were published in English. Whether this should be a desirable outcome from the perspective of the researcher is, of course, open to debate; what is more interesting in the context of this paper is the question of what ethnographic sensibility, if anything, added to the practical and policy utility that Barbara’s work has had.

The answer is that ethnographic sensibility added something tangible and something less tangible. The tangible benefit was that it facilitated dialogue between a relatively diverse group of academics and practitioners, which involved that some of them were exposed to ideas and arguments that were ‘strange’ and ‘foreign’ to them initially. Some of these dialogues and collaborations have survived over years, while others were of a more

temporary nature. The less tangible outcome of bringing ethnographic sensibility to Barbara's study of bio-regulation was that the very connection between a political discourse focusing the demographic development of the country, and the domain of life science regulation, heightened the sensitivity among policy makers for the argument that bioscience regulation was strongly dependent on social and political values and necessities.

In Ayo's case, being involved as a social scientist in a project led by natural scientists and a traditional practitioner brought attention in the project group to how the central objectives of the project – to determine and improve the safety and efficacy of a herbal remedy – relied on the building up of specific templates of healing that did not necessarily fit the claims being made on behalf of the herbal medicine. For example, the deployment of Himmelsbach-derived scales (a 'gold standard' rating scale used to measure the intensity of withdrawal symptoms during detoxification) to measure the efficacy of the remedy did not correspond to the chief claim of eliminating the cravings of a drug addict over time. Following an initial focus on clinical trials, scientists have since turned their attention to preclinical studies of possible neural mechanisms of action that active ingredients in Heantos might be working through. And in a broader sense, Ayo's engagement with the regulation of herbal medicine in Vietnam compared to its regulation in the United Kingdom brought awareness among informants (who included central figures in the country's herbal medicine modernisation programmes over the last decades) in Vietnam of how marked differences between traditional herbal medicine regulatory regimes can arise. In Vietnam, the primary objective regulation of traditional herbal medicine is organised around 'promoting public health', while in the United Kingdom the primary objective is 'protecting public health'. This has been a less tangible outcome that has been disseminated through the aforementioned book project involving practitioners, regulators and social scientists.

5. Conclusion: What is there to learn?

The stories recounted here highlight the importance of conceptual and methodological reflection for those of us who are studying bio-regulation in any country. To some extent, methodological choices are governed by disciplinary conventions. Anthropologists tend to emphasise the importance of face-to-face interaction through participation, observation, conversation, interviews and discussion in the generation of narrative, while legal scholars are often more interested in procedures and policies choosing to focus on formalized regulatory processes and legal texts, and policy analysts consult documents and experts to understand how formal rules came into being. Taking into consideration hitherto social scientific engagement with stem cell research (see, for example, Geesink *et al*, 2008; Prainsack *et al*, 2008), a recent call to move ‘beyond the regulatory exterior’ in order to focus on the informal side of regulatory mechanisms that influence research practices of stem cell research (see Sleeboom-Faulkner, 2011) is timely. Yet we should also be wary of thinking in terms of exteriors and interiors.

Given the importance of informal practices at the ‘backstage’ (Prainsack *et al*, 2008) of scientific knowledge production and its regulation, in co-determining the scope, shape and structure of the space in which regulation unfolds, we cannot but wonder about our own roles as social science researchers in such processes. As Wagenaar reminds us, we are unable to produce a perfect copy of a world of which we are part (Wagenaar, 2011: 195; see also Duncan and Ley, 1993: 4). While this is no particularity of research into bio-regulation, our intervention tends to be more pronounced in areas and topics where social scientists’ accounts of what goes on in a certain country can have considerable influence on how a particular country is seen by others: think, for example, of the influential role that social scientists played in both discrediting and supporting the Icelandic Health Sector Database project.¹² Human embryonic stem cells are a ‘hot topic’ which play an important role in national elections, such as in more recent US history (see, for example, Rahm Emanuel quoted in Riley 2008; McCormick 2008); which have drawn national governments into a crisis, such as in South Korea (Saunders and Savulescu, 2008; Kitzinger, 2008; Kim, 2008); and which are prominently featured in top tier academic and public media. Similarly, traditional medicine or complementary and

alternative medicine is also often mired in controversy related to accusations of ‘quackery’, ‘snake oils’ and ‘placebo’ (Wahlberg, 2007, 2008).

Thus, for those involved in, or those who feel strongly about hESC or traditional medicine, the question of how research practices and regulatory frameworks in their own countries are portrayed is an important one. There is a lot at stake: The ‘uncovering’ and subsequent publication of what might be considered ethically questionable research practices or insufficient institutional monitoring by a social scientist could have significant negative consequences for scientists and for the country as a whole.

Moreover, questions about representation and intervention (cf. Hacking, 1983) are pertinent to all social science research, in social studies exploring fields like stem cell research and traditional herbal medicine such questions are very immediate. Concepts, regulations, and practices are emerging and in flux; alliances of agreement regarding what a stem cell or traditional herbal medicinal product is, where stem cells should be derived from, how herbal medicines should be quality controlled and who should be in charge of regulating their use are in flux. For example, while hESC research, for a while, was seen as a field with exceptional therapeutic promise even by those who opposed to it on moral, ethical or religious grounds, the ‘discovery’ of so-called induced pluripotent stem cells (iPS cells; see Yu *et al*, 2007; Takahashi, 2007; Cyranoski, 2008; Gottweis and Minger, 2008; Nishikawa *et al*, 2008; Vrtovec and Scott, 2008) has done away with this consensus. It has opened up the question of whether we need embryonic stem cells at all. In the context of traditional herbal medicine, new scientific techniques are continuously being developed to deal with regulatory safety, quality and efficacy requirements which can change conceptions about what a traditional medicinal product is. Some argue that no regulatory distinction should be made between pharmaceutical and herbal products while others that the distinction is essential.

This means that any attempt by social scientists to understand, and describe to others, a particular status quo in that continuous negotiation of what stem cells or herbal medicines are, where they are sourced from, how they are manipulated, how they are quality

controlled and what they are supposed to be doing also represents an instance of ‘intervening’ in those negotiations.¹³ As James Clifford (1986: 19) put it, when something is ‘contested, temporal and emergent’ then ‘[r]epresentation and explanation – both by insiders and outsiders – is implicated in this emergence’. This, however, does not mean that because every ‘observation’ is necessarily also an intervention, we should better stay away from this sort of research altogether. We should keep doing what we are doing, while explicitly reflecting on the extents to which we ourselves are becoming parts of the plot, and addressing the partialities, ‘game openings’, exclusions and particularities in the narratives that emerge from social scientific research in our fields.

In sum, the current trend towards interpretive methods in policy research, and the need for ethnographic sensibility in social science and STS accounts of bio-regulation, lead us to conclude that one of our tasks as social scientists must be to situate bio-regulation. In our case studies, important storylines would have remained unexplored if we had relied solely on the analysis of documents and media coverage on our topics. As argued in this paper, had we resorted to the level of legal and policy documents, and media coverage, and even if we had added data from a first round of interviews to that, we would have ended up with very different stories than we actually ultimately told. Ethnographic sensibility allowed us to make new connections.

But also apart from the story of our case study, other accounts of hESC research and its regulation in recent years have highlighted the need to look at the ‘informal side of regulatory mechanisms’ if we want to understand differences across countries. For example, the particular UK approach has a lot to do with ‘unwritten’ traditions of public deliberation; and the situation in Germany is to a large extent an answer to questions arising for Germany’s historical legacy (Gottweis and Prainsack, 2006). In Japan, the regulation of hESC research has been accompanied by a strategic occupation of the discursive space by regulators who gave voice to those minority groups and stakeholders whose objectives fit their own purposes (Sleeboom-Faulkner, 2008). In Italy, regulation of hESC research is strongly affected by Catholic family values which are mirrored in the regulation of embryo research in general (Metzler, 2007).

All those accounts which dig deeper than the level of document analysis rely heavily on qualitative field work, and ethnographic methods. While some of the risks and benefits inherent in this work have been discussed in the context of exploring ‘cultures’, it has not received much methodological attention in the context of examining something supposedly as ‘hard’ as science policies. Especially in the field of hESC research, however, such questions are in need of reflection both by those of us who carry out the research, and by those who read our work. Particularly in countries where research and science regulation has not yet received a lot of academic and public attention, social scientists’ accounts contribute considerably to perceptions of such countries as either ‘rogue regulators’ or ‘good guys’. With stakeholders in those countries often being aware of the high stakes, field researchers are likely to face expectations – whether explicitly or implicitly – to devote particular attention to some things and leave others unsaid. In this sense, social science work on bio-regulation should entail reflection on the extent to which researchers have become part of the story they are telling. As researchers in this field we should, paraphrasing Rheinberger (1994), make it part of our research agendas to explore what aspects of our own research function as a ‘future generating device’.

Notes

¹ Heantos is a herbal remedy for drug addiction developed by Tran Khuong Dan during the 1980s and modernized in collaboration with scientists at the Institute of Chemistry in Hanoi since the mid-1990s (see Wahlberg, 2008).

² Wagenaar’s analysis, which is based on a comprehensive discussion of interpretive policy analysis scholarship, illustrates this problem. What he calls one of the main problems of the work he analysed is congruent with what we would describe as a lack of ethnographic sensibility: ‘the temptation to engage in a restricted version of the

qualitative research process, including the widespread tendency to consider public policy a text' (Wagenaar, 2011: 79).

³ Although we also distinguish our approaches from the forms of 'studying up' explored by Shore and Nugent (2002) which aim to study the cultures of elite groups.

⁴ The aspect of nation building played a prominent role in both case studies. We discuss it in detail elsewhere (for Israel, see Prainsack, 2005, 2006; Prainsack and Hashiloni-Dolev 2009. Portugese's [1998] and Kahn's [2000] work on this topic is seminal. For Vietnam, see Wahlberg, 2006; 2012; Monnais *et al*, 2012)

⁵ An example outside of the scope of the 'thinkable and sayable' in our own communities of academics and practitioners concerned with the social studies of biomedicine and the biosciences would be to call for carrying out medical experiments on the poorest members of the society in country A without their consent because they would not be able to defend themselves. Such a statement would infringe almost everything that within our communities is accepted as a self-evident truth, such as that exploitation of human beings is reprehensible, etc. Thus, such a statement would have no space within the boundaries of what can meaningfully be thought and said within that community.

⁶ 'The womb of the Arab woman is my strongest weapon'. Yasser Arafat quoted from Foa, 2002. See also Kanaaneh, 2002.

⁷ 'Integrated' refers to the extent to which non-biomedical forms of medicine such as herbal medicine or acupuncture are present in national systems of medical research, medical training and medical practice (Bodeker and Kronenberg, 2002).

⁸ Ho Chi Minh's Viet Minh soldiers fought wars of independence against France (1946-1954) and America (1965-1975).

⁹ This is not to say that tensions do not exist (especially when it comes to resource allocation), rather in overall terms, an emphasis on combination and integration is prevalent.

¹⁰ For an overview of anthropological debates about studying elites see Nader (1972) and Shore and Nugent (2002).

¹¹ This approach has been discussed under the labels of ‘respondent validation’, or ‘member checking’; see Turner and Coen, 2008; Angen, 2002; Sandelowski, 1993. We prefer the term ‘feedback cycles’ to indicate that what we have in mind is not the application of the positivist concept of ‘validity’ to interpretive approaches – which would then result in finding that the data is ‘right’ or ‘wrong’-; but rather the incorporation of our informants’ reflections on our findings into our findings.

¹² The Icelandic Health Sector Database project was formally initiated in 1998 by a law that licensed a local company to establish one of the world’s largest resources for genetic and genomic epidemiological research, by integrating health records, ancestral records, and DNA from all Icelanders. While specific permission from individuals was required for their DNA to be included, the inclusion of health and ancestral records was done by means of presumed consent. The Health Sector Database never fully materialised; one of the pitfalls was that family physicians refused to pass on the health records they held. For more details, see Fortun, 2008; Pálsson, 2007; Pálsson and Rabinow 2005.

¹³ Work in the tradition of ‘sociology of expectation’ has put forward a very similar argument. See, for example, Franklin (2007); Brown and Michael (2003); Brown *et al* (2000).

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References:

- Agar, M. H. (1986) *Speaking of ethnography*. Beverly Hills, CA: Sage.
- Angen, M. J. (2000) Evaluating Interpretive Inquiry: Reviewing the Validity Debate and Opening the Dialogue. *Qualitative Health Research* 10: 378-395.
- Baxter, J., and Eyles, J. (1997) Evaluating qualitative research in social geography: establishing 'rigor' in interview analysis. *Transactions of the Institute of British Geographers* 22(4): 505-525.
- Bevir, M., and Rhodes, R.A.W. (2006) Interpretive approaches to British government and politics. *British Politics* 1(1): 84-112.
- Bodeker, G. and Kronenberg, F. (2002) A public health agenda for traditional, complementary, and alternative medicine. *American Journal of Public Health* 92(10): 1582-1591.
- Brown, N., and Michael, M. (2003) A Sociology of Expectations: Retrospecting Prospects and Prospecting Retrospects. *Technology Analysis and Strategic Management* 15(1): 3-18.
- Brown, N., Rappert, B., and Webster, A. (eds.) (2000) *Contested Futures: A Sociology of Prospective Science and Technology*. Aldershot: Ashgate.

- Calvey, D. (2008) The art and politics of covert research: Doing 'situated ethics' in the field. *Sociology* 42 (5): 905-918.
- Cambrosio, A., Limoges, C, and Pronovost, D. (1990) Representing Biotechnology: An Ethnography of Quebec Science Policy. *Social Studies of Science* 20: 195-227.
- Clarke, A.E. (2005) *Situational Analysis: Grounded Theory After the Postmodern Turn*. Thousand Oaks, CA: Sage.
- Clifford, J., and Marcus, G. E. (1986) *Writing culture: the poetics and politics of ethnography*. Berkeley: University of California Press.
- Coward, R. (1989) *The whole truth: the myth of alternative health*. London: Faber and Faber.
- Cronon, W. (1992) A Place for Stories: Nature, History, and Narrative. *The Journal of American History* 78(4): 1347-1376.
- Cyranoski, D. (2008) 5 Things to know before jumping on the iPS bandwagon. *Nature*, 452(7186): 406-408.
- Duncan, J., and Ley, D. (eds.) (1993) *Place/Culture/Representation*. London: Routledge.
- Evans-Pritchard, E. E. (1937) *Witchcraft, oracles and magic among the Azande*, Oxford: Clarendon Press.
- Fay, B. (2006) *Contemporary Philosophy of Social Science*. Oxford, UK: Blackwell.
- Feldman, D. M. (1968) *Marital Relations, Birth Control, and Abortion in Jewish Law*. New York: New York University Press.
- Fischer, M. (2009) *Anthropological Futures*, Durham, NC: Duke University Press
- Foa, S. (2002) Battle of the Wombs. The Future's Numbers Game. *The Village voice online*, December 2, <http://www.villagevoice.com>, accessed 15 January 2004.
- Fortun, M. A. (2008) *Promising Genomics: Iceland and deCODE Genetics in a World of Speculation*. Berkeley, CA: University of California Press.
- Franklin, S. (1997) *Embodied progress : a cultural account of assisted conception*, London, New York: Routledge.
- Franklin, S. (2005) Interdisciplinarity in life sciences and society studies. Paper presented at the Postgraduate Life Sciences and Society Network, 19 October 2005, London, UK.

- Franklin, S. (2007) *Dolly Mixtures: the remaking of genealogy*. Durham, NC: Duke University Press.
- Franklin, S., and Roberts, C. (2006) *Born and Made: An Ethnography of Preimplantation Genetic Diagnosis*. Princeton, NJ: Princeton University Press.
- Franzosi, R. (1998) Narrative analysis – or why (and how) sociologists should be interested in narrative. *Annual Review of Sociology* 24: 517-554.
- Geertz, C. (1973) Thick Description: Toward an Interpretive Theory of Culture. In: C. Geertz (ed.) *The Interpretation of Cultures: Selected Essays*.. New York: Basic Books, pp. 3-30.
- Geesink, I., Prainsack, B., and Franklin, S. (2008) Stem Cell Stories: 1998/2008. Special Issue of *Science as Culture*, 17(1).
- Glynnos, J., and Howarth, D. (2008) Structure, agency and power in political analysis: Beyond contextualised self-interpretations. *Political Studies Review* 6 (2): 155-169.
- Gottweis, H. (1998) *Governing Molecules: Discursive Politics of Genetic Engineering in Europe and in the United States*. Cambridge, Mass: MIT Press.
- Gottweis, H., and Prainsack, B. (2006) Emotion in political discourse: contrasting approaches to stem cell governance in the USA, UK, Israel and Germany. *Regenerative Medicine* 1(6): 823-829.
- Gottweis, H., and Minger, S. (2008) IPS cells and the politics of promise. *Nature Biotechnology* 26(3): 271-272.
- Hacking, I. (1983) *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science*. Cambridge: Cambridge University Press.
- Hajer, M. and Wagenaar, H. (eds.) (2003) *Deliberative Policy Analysis - Understanding Governance in the Network Society*. Cambridge, UK: Cambridge University Press.
- Haraway, D. (1988) Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies* 14(3): 575-599.
- Hashiloni-Dolev, Y. (2007) *A Life (Un)worthy of Living: Reproductive Genetics in Israel and Germany*. Heidelberg: Springer.
- Hastrup, K. (2004) Getting it right: knowledge and evidence in anthropology. *Anthropological Theory* 4(4): 455-472.

- Hess, D.J. (1997) *Science Studies: An Advanced Introduction*. New York and London: New York University Press.
- Hoàng, B. C., Phó, Đ. T. and Huu, N. (1999) *Vietnamese Traditional Medicine*, Hanoi: The Gioi Publishers.
- James, W. (1977 [1909]) *A pluralistic universe*. Cambridge, MA: Harvard University Press.
- Jasanoff, Sheila (2005) *Designs on Nature: Science and Democracy in Europe and the United States*, Princeton: Princeton University Press
- Kahn, S.M. (2000) *Reproducing Jews: A Cultural Account of Assisted Conception in Israel*. Durham, NC: Duke University Press.
- Kanaaneh, R.A. (2002) *Birthing the Nation. Strategies of Palestinian Women in Israel*. Berkeley, CA: University of California Press.
- Kim, L. (2008) Explaining the Hwang scandal: National scientific culture and its global relevance. *Science as Culture* 17(4): 397-415.
- Kitzinger, J. (2008) Questioning Hype, Rescuing Hope? The Hwang stem cells scandal and the reassertion of hopeful horizons. *Science as Culture* 17(4): 417-434.
- Knorr-Cetina, K. (1981) *The manufacture of knowledge: an essay on the constructivist and contextual nature of science*. Oxford: Pergamon Press.
- Knorr-Cetina, K., and Merz, M. (1997) Floundering or Frolicking – How Does Ethnography Fare in Theoretical Physics (And What Sort of Ethnography?). A Reply to Gale and Pinnick. *Social Studies of Science* 27(1): 123-131.
- Landecker, Hannah (2007) *Culturing Life: How Cells Became Technologies*. Cambridge, MA: Harvard University Press
- Latour, B. and Woolgar, S. (1979) *Laboratory Life: The Construction of Scientific Facts*. Princeton, NJ: Princeton University Press.
- Ljungberg, Mirka Koro (2008) Validity and Validation in the Making in the Context of Qualitative Research. *Qualitative Health Research* 18(7): 983-989.
- Malinowski, B. (1922) *Argonauts of the Western Pacific: an account of native enterprise and adventure in the Archipelagoes of Melanesian New Guinea*. London: Routledge and Kegan paul.

- Marcus, G.E. (1998) *Ethnography through Thick and Thin*. Princeton, NJ: Princeton University Press.
- Marcus, G. E., and Fischer, M.E. (1986) *Anthropology as Cultural Critique: An Experimental Moment in the Human Sciences*. Chicago, IL: University of Chicago Press.
- McCormick, D. (2008) Poll watching. *BioTechniques* 45(4): 365.
- Mead, Margaret (1939) Native languages as Field-Work Tools. *American Anthropologist* 41(2): 189-205.
- Merriam, S. (1995) What can you tell from an N or 1? Issues of validity and reliability in qualitative research. *PAACE Journal of Lifelong Learning* 4: 51-60.
- Metzler, I. (2007) 'Nationalizing Embryos': The Politics of Human Embryonic Stem Cell Research in Italy. *BioSocieties* 2(4): 413-427.
- Mishler, E.G. (1990) Validation in inquiry-guided research: The role of exemplars in narrative studies. *Harvard Educational Review* 60: 415-440.
- Monnais, L., Thompson, C.M. and Wahlberg, A. (eds.) (2012) *Southern Medicine for Southern People: Vietnamese Medicine in the Making*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Nader, L., (1972) Up the Anthropologist—Perspectives Gained from Studying Up. In: D.H. Hymes (ed.) *Reinventing Anthropology*. New York: Pantheon Books, pp. 284-311.
- Nishikawa, S.-I., Goldstein, R.A., and Nierras, C.R. (2008) The promise of human induced pluripotent stem cells for research and therapy. *Nature Reviews Molecular Cell Biology* 9(9): 725-729.
- Pálsson, G. (2007) *Anthropology and the new genetics*. Cambridge, UK: Cambridge University Press.
- Pálsson, G. and Rabinow, P. (2005) The Iceland controversy: reflections on the transnational market of civic virtue. In: A. Ong and S. J. Collier (eds.) *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Malden, MA: Blackwell Publishing, pp. 91-104.
- Patterson, M., and Monroe, K.R. (1998) Narrative in political science. *Annual Review of Political Science* 1: 315-331.

- Pham, N. T. (1965) Interview with Doctor Pham Ngoc Thach, Minister of Health. In: V. H. Nguyen, D. C. Hoang, C. Vu and P. C. Nguyen (eds.) *Health Organization in the D.R.V.*, Hanoi: Xunhasaba, pp. xxx
- Polanyi, M. (1966) *The tacit dimension*. New York: Doubleday.
- Portugese, J. (1998) *Fertility policy in Israel: the Politics of Religion, Gender, and Nation*. Westport, CN: Praeger.
- Prainsack, B. (2004) *The Politics of Life: 'Negotiating Life' in Israel. Embryonic Stem Cells, and Human Cloning*. PhD thesis, University of Vienna, Austria.
- Prainsack, B. (2006) Negotiating Life: The Regulation of Embryonic Stem Cell Research and Human Cloning in Israel. *Social Studies of Science* 36(2): 173-205.
- Prainsack, B., and Firestone, O. (2005) Genetically modified survival: Red and green biotechnology in Israel. *Science as Culture* 14(4): 355-372.
- Prainsack, B., Geesink, I., and Franklin, S. (eds.) (2008) Stem Cell Science 1998-2008: Controversies and Silences. Special Issue of *Science as Culture* 17(4).
- Prainsack, B., Geesink, I., and Franklin, S. (eds.) (2008) Stem Cell Science 1998-2008: Controversies and Silences. Guest Editorial to a Special Issue of *Science as Culture*, 17(4): 351-362.
- Prainsack, B., and Hashiloni-Dolev, Y. (2009) Religion and Nationhood. In: Atkinson, P., Glasner, P., and Lock, M. (eds.) *Handbook of Genetics and Society: Mapping the new genomic era*. London: Routledge, pp. 404-421.
- Prainsack, B., Nordahl-Svendsen, M., Koch, L., and Ehrich, K. (2009) How do we collaborate? Social science researchers' experience of multidisciplinary in biomedical settings (under review). *BioSocieties* 5(2): 278-286.
- Rabinow, P. (1999) *French DNA: Trouble in Purgatory*. Chicago: University of Chicago Press.
- Rau, J. (2001) Wird alles gut? Für einen Fortschritt nach menschlichem Mass (Is everything going to be ok? In favour of progress to human measure). Speech in Berlin, 18 May. Full text available at: http://www.bundespraesident.de/SharedDocs/Reden/DE/Johannes-Rau/Reden/2001/05/20010518_Rede.html, accessed 8 May 2013 (in German).

- Rheinberger, H.-J. (1994) Experimental Systems: Historiality, Narration, and Deconstruction. *Science in Context* 7(1): 65-81.
- Riley, J. L. (2008) Do What You Got Elected to Do. *The Wall Street Journal*, 10 November: p. 14.
- Rivers, W. H. R. (1924) *Medicine, magic and religion*. London: Kegan Paul, Trench, Trubner.
- Rose, N. (1996) *Inventing Our Selves. Psychology, Power, and Personhood*. Cambridge: Cambridge University Press.
- Ruggie, M. (2004) *Marginal to mainstream: alternative medicine in America*. Cambridge: Cambridge University Press.
- Saks, M. P. (1995) *Professions and the public interest: medical power, altruism and alternative medicine*. London: Routledge.
- Sandelowski, M. (1993) Rigor or rigor mortis: The problem of rigor in qualitative research revisited. *Advanced Nursing Science* 16: 1-8.
- Saunders, R., and Savulescu, J. (2008) Research ethics and lessons from Hwanggate: What can we learn from the Korean cloning fraud? *Journal of Medical Ethics* 34(3): 214-221.
- Schatz, E. (ed) (2009) *Political Ethnography -What Immersion Contributes to the Study of Power*. Chicago: University of Chicago Press
- Scheper-Hughes, N. (1982 [1979]) *Saints, Scholars, and Schizophrenics: Mental Illness in Rural Ireland*. Berkeley: University of California Press [paperback edition with new preface].
- Schnabel, U. (2001) Ohne Mutter Keine Menschenwürde. Die Reproduktionsmedizin steht in Israel hoch im Kurs, die Zusammenarbeit mit Deutschland auch (No human dignity in absence of a mother. Reproductive medicine is valued in Israel, as is collaboration with Germany). *Die Zeit* 24, p. 32 (in German).
- Schön, D.A. and Rein, M. (1994) *Frame Reflection: Toward the Resolution of Intractable Policy Controversies*. New York: Basic Books.
- Schwabe, A. (2001) Clement für Import embryonaler Stammzellen (Clement in favour of importing embryonic stem cells), *Spiegel online*, June 1, 2001,

- <http://www.spiegel.de/politik/deutschland/genforschung-clement-fuer-import-embryonaler-stammzellen-a-137487.html>, accessed 8 May 2013 (in German).
- Shore, C. and Nugent, S. (eds.) (2002) *Elite Cultures: Anthropological Perspectives*, London/New York: Routledge.
- Shore, C. and Wright, S. (eds.) (1997) *Anthropology of Policy: Critical perspectives on Governance and Power*. London: Routledge
- Sleeboom-Faulkner, M. (2011) Stem Cell Research in Asia: Looking Beyond Regulatory Exteriors. Editorial for a Special Issue of *New Genetics & Society* 30(2): 137-139.
- Sleeboom-Faulkner, M. (2008) Debates on Human Embryonic Stem Cell Research in Japan: Minority Voices and their Political Amplifiers. *Science as Culture* 17(1): 85-97.
- Sleeboom-Faulkner, M. (ed.) (2010) *Frameworks of Choice: Predictive and genetic testing in Asia*. Amsterdam: Amsterdam University Press.
- Sperling, S. (2008) Converting Ethics into Reason: German Stem Cell Policy between Science and the Law. *Science as Culture* 17(4): 363-375.
- State of Israel (1948) Declaration of the Establishment of the State of Israel, May 14, 1948. Available at http://www.knesset.gov.il/docs/eng/megilat_eng.htm, accessed 8 May 2013).
- Strathern, M. (2004) *Partial Connections: Updated edition*. Oxford: Rowman and Littlefield Publishers, Inc.
- Takahashi, K., Tanabe, K., Ohnuki, M., Narita, M., Ichisaka, T., Tomoda, K., and Yamanaka, S. (2007) Induction of Pluripotent Stem Cells from Adult Human Fibroblasts by Defined Factors. *Cell* 131(5): 861-872.
- Thompson, C. (2005) *Making Parents: The Ontological Choreography of Reproductive Technologies*. Cambridge, MA: MIT Press.
- Thompson, M. (2004) Medicine, Nationalism, and Revolution in Vietnam; the Roots of a Medical Collaboration to 1945. *East Asian Science, Technology, and Medicine* 21: 114-48.
- Thomson, J.A., Iskovits-Eldor, J., Shapiro, S.S., Waknitz, M.A., Swiergiel, J.J., Marshall, V.S., and Jones, J.M. (1998) Embryonic stem cell lines derived from human blastocysts, *Science*, 282(5391): 1145-1147.

- Turner, S., and Coen, S.E. (2008) Member checking in human geography: interpreting divergent understandings of performativity in a student space. *Area* 40(2): 184-193.
- Vaughan, D. (2000) An Ethnographic Excursion. *Social Studies of Science* 20: 951-956.
- Vermeulen, N., Tamminen, S., and Webster, A. (2012). *Bio-objects: Life in the 21st Century*. Farnham: Ashgate.
- Wagenaar, H. (2011) *Meaning in Action: Interpretation and Dialogue in Policy Analysis*. Armonk, NY: M.E. Sharpe.
- Wahlberg, A. (2006) Bio-politics and the promotion of traditional herbal medicine in Vietnam. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine* 10(2): 123-47.
- Wahlberg, A. (2007) A quackery with a difference - new medical pluralism and the problem of 'dangerous practitioners' in the United Kingdom. *Social Science and Medicine* 65(11): 2307-16.
- Wahlberg, A. (2008) Above and beyond superstition - western herbal medicine and the decriminalising of placebo. *History of the Human Sciences* 21(1): 77-101.
- Wahlberg, A. (2008) Pathways to plausibility - when herbs become pills. *BioSocieties* 3(1): 37-56.
- Wahlberg, A. (2012) A Revolutionary Movement to Bring Traditional Medicine Back to the Grassroots Level: On the Biopolitization of Herbal Medicine in Vietnam. In: Monnais, L., and Cook, HJ. (eds.) *Global Movements, Local Concerns: Medicine and Health in Southeast Asia*. Singapore: NUS Press, pp. 207-225.
- WHO (2002). *Traditional Medicine Strategy 2002-2005*. Geneva: World Health Organization.
- Vrtovec, K.T., and Scott, C.T. (2008) Patenting pluripotency: The next battle for stem cell intellectual property. *Nature Biotechnology* 26(4): 393-395.
- Yanow, D. (1996) *How Does a Policy Mean? Interpreting Policy and Organizational Action*. Washington, DC: Georgetown University Press.
- Yanow, D. (2000) *Conducting Interpretive Policy Analysis*. Thousand Oaks, CA: Sage.
- Yu, J., M. Vodyanik, K. Smuga-Otto, J. Antosiewicz-Bourget, J. Frane, S. Tian, J. Nie, G. Jonsdottir, V. Ruotti, R. Stewart, I. Slukvin, and Thomson, J. (2007) Induced

pluripotent stem cell lines derived from human somatic cells. *Science* 318(5858): 1917-1920.